

WEST Search History

DATE: Monday, May 21, 2007

| Hide? | Set Name | Query | Hit Count |
|-------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------|------------------|
| | <i>DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=NO; OP=ADJ</i> | | |
| <input checked="" type="checkbox"/> | L13 | us-5645759-\$.did. | 2 |
| <input type="checkbox"/> | L12 | L11 not l10 | 1 |
| <input type="checkbox"/> | L11 | L9 and l7 | 3 |
| <input type="checkbox"/> | L10 | L9 same l7 | 2 |
| <input type="checkbox"/> | L9 | cvcp-\$ | 23 |
| <input type="checkbox"/> | L8 | L7 same l6 | 15 |
| <input type="checkbox"/> | L7 | ccoc-?-? | 36 |
| <input type="checkbox"/> | L6 | pqu-?-F or puqu-?-F or pgu-?-F or ccqg-?-F or cuqu-?-F or cccqu-?-F | 46 |
| | <i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=NO; OP=ADJ</i> | | |
| <input type="checkbox"/> | L5 | \$_HVHB near F same \$CF2O\$ | 5 |
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| <input type="checkbox"/> | L3 | L2 and l1 | 10 |
| <input type="checkbox"/> | L2 | \$CF2O\$ | 2054 |
| <input type="checkbox"/> | L1 | \$_HVHB near F | 10 |

END OF SEARCH HISTORY

19 20

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

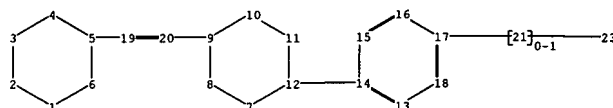
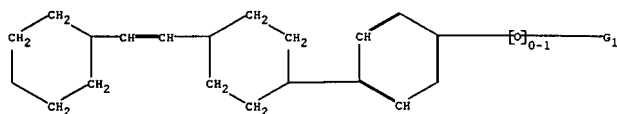
5-9 12-19 14-20 19-20

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17-18

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15 14-20 15-16
16-17 17-18

5-9 12-19 19-20

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1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom
13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS20:CLASS
```



chain nodes :

19 20 21 23

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

chain bonds :

5-19 9-20 12-14 17-21 19-20 21-23

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15 15-16 16-17 17-18

exact/norm bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 17-21 21-23

exact bonds :

5-19 9-20 12-14 19-20

normalized bonds :

13-14 13-18 14-15 15-16 16-17 17-18

G1:Cl,F,CF2,CN

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS

L4 ANSWER 5 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:869347 CAPLUS
 DN 137:377523
 TI Substituted benzene derivative for liquid crystal composition and liquid crystal display
 IN Kondo, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo
 PA USA
 SO U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U. S. Ser. No. 242,811, abandoned.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | US 2002166994 | A1 | 20021114 | US 2001-917271 | 20010730 |
| | US 6579577 | B2 | 20030617 | | |
| | JP 10101599 | A | 19980421 | JP 1996-272857 | 19960925 |
| | JP 2961650 | B2 | 19991012 | | |
| | WO 9813323 | A1 | 19980402 | WO 1997-JP3403 | 19970925 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| PRAI | JP 1996-272857 | A | 19960925 | | |
| | WO 1997-JP3403 | W | 19970925 | | |
| | US 1999-242811 | B2 | 19990224 | | |
| OS | MARPAT 137:377523 | | | | |

L4 ANSWER 6 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 2001:581512 CAPLUS
 DN 135:160219
 TI Liquid crystal composition and liquid crystal display device
 IN Yanai, Motoki; Kubo, Yasuhiro; Nakagawa, Etsuo
 PA Chisso Corp., Japan; Chisso Petrochemical Corp.
 SO Eur. Pat. Appl., 39 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | EP 1122292 | A2 | 20010808 | EP 2001-102169 | 20010202 |
| | EP 1122292 | A3 | 20011107 | | |
| | EP 1122292 | B1 | 20030618 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| | JP 2001288470 | A | 20011016 | JP 2000-160243 | 20000530 |
| | JP 3601415 | B2 | 20041215 | | |
| | US 2002066887 | A1 | 20020606 | US 2001-773536 | 20010202 |
| | US 6572938 | B2 | 20030603 | | |
| PRAI | JP 2000-27959 | A | 20000204 | | |
| | JP 2000-160243 | A | 20000530 | | |
| OS | MARPAT 135:160219 | | | | |

L4 ANSWER 7 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 2000:785766 CAPLUS
 DN 133:357364
 TI Liquid crystal medium for liquid crystal display
 IN Reiffenrath, Volker; Schuler, Brigitte; Tarumi, Kazuaki

PA Merck Patent G.m.b.H., Germany
SO Ger. Offen., 20 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|------------------|----------|
| PI | DE 10018599 | A1 | 20001109 | DE 2000-10018599 | 20000414 |
| | JP 2000345161 | A | 20001212 | JP 2000-133589 | 20000502 |
| | US-6399162 | B1 | 20020604 | US 2000-562752 | 20000502 |
| PRAI | DE-1999-19920125 | A1 | 19990503 | | |
| OS | MARPAT 133:357364 | | | | |

L4 ANSWER 8 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:457005 CAPLUS
DN 133:97156
TI Preparation of (difluoromethyl)benzene derivatives as liquid crystal compounds exhibiting negative anisotropy of permittivity
IN Tamura, Norio; Fujita, Atsuko; Takeuchi, Hiroyuki; Takeshita, Fusayuki; Nakagawa, Etsuo
PA Chisso Corporation, Japan
SO PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|------------------|----------|
| PI | WO 2000039063 | A1 | 20000706 | WO 1999-JP6973 | 19991213 |
| | W: DE, JP, US | | | | |
| | DE 19982965 | T0 | 20010426 | DE 1999-19982965 | 19991213 |
| | US 6576303 | B1 | 20030610 | US 2000-622826 | 20000824 |
| PRAI | JP-1998-370025 | A | 19981225 | | |
| | WO 1999-JP6973 | W | 19991213 | | |
| OS | MARPAT 133:97156 | | | | |

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:368280 CAPLUS
DN 133:24766
TI Aniline derivatives, liquid-crystal composition containing the same, and liquid-crystal display device
IN Fujita, Atsuko; Tamura, Norio; Takeuchi, Hiroyuki; Takeshita, Fusayuki; Nakamura, Nobumasa; Nakagawa, Etsuo
PA Chisso Corporation, Japan
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 2000031019 | A1 | 20000602 | WO 1999-JP6505 | 19991122 |
| | W: JP, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 6485799 | B1 | 20021126 | US 2000-600901 | 20000724 |
| PRAI | JP 1998-332609 | A | 19981124 | | |
| | WO 1999-JP6505 | W | 19991122 | | |
| OS | MARPAT 133:24766 | | | | |

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1999:78519 CAPLUS
 DN 130:189736
 TI Novel liquid-crystal compound, liquid-crystal composition, and liquid-crystal display device
 IN Sawada, Shinichi; Shibata, Koichi; Takeuchi, Hiroyuki; Matsui, Shuichi; Kobayashi, Katsuhiko; Miyazawa, Kazutoshi; Yagi, Hirotake; Takeshita, Nobuyuki; Nakagawa, Etsuo
 PA Chisso Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 101 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | JP 11029582 | A | 19990202 | JP 1997-202271 | 19970711 |
| PRAI | JP 1997-202271 | | 19970711 | | |
| OS | MARPAT 130:189736 | | | | |

L4 ANSWER 11 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:724165 CAPLUS
 DN 130:59198
 TI Fluoroalkyl ethers, liquid crystal compositions containing them, and liquid crystal displays
 IN Yano, Shinichi; Kato, Ryuji; Abe, Kazutaka; Kato, Takashi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo
 PA Chisso Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 74 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|-----------------|----------|
| PI | JP 10298127 | A | 19981110 | JP 1997-121618 | 19970424 |
| PRAI | JP 1997-121618 | | 19970424 | | |
| OS | MARPAT 130:59198 | | | | |

L4 ANSWER 12 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:614232 CAPLUS
 DN 129:296227
 TI Halo-substituted benzene derivative, and liquid-crystal composition and display device using it
 IN Kobayashi, Katsuhiko; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki
 PA Chisso Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 117 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | JP 10251186 | A | 19980922 | JP 1997-72708 | 19970310 |
| PRAI | JP 1997-72708 | | 19970310 | | |
| OS | MARPAT 129:296227 | | | | |

L4 ANSWER 13 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:568790 CAPLUS
 DN 129:223634
 TI Preparation of liquid-crystalline compounds having bicyclo[1.1.1]pentane

structure, liquid-crystal composition, and liquid-crystal display element
IN De Meijere, Armin; Messner, Matthias; Kazhushkov, Sergei; Demus, Dietrich;
Kobayashi, Katsuhiko; Miyazawa, Kazutoshi; Matsui, Shuichi; Takeuchi,
Hiroyuki; et al.

PA Chisso Corporation, Japan

SO PCT Int. Appl., 175 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | <u>WO 9835924</u> | A1 | 19980820 | WO 1998-JP602 | 19980213 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9858805 | A | 19980908 | AU 1998-58805 | 19980213 |
| | EP 987238 | A1 | 20000322 | EP 1998-902222 | 19980213 |
| | R: DE | | | | |
| PRAI | JP 1997-44615 | A | 19970213 | | |
| | WO 1998-JP602 | W | 19980213 | | |

OS MARPAT 129:223634

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:527299 CAPLUS

DN 129:168526

TI Preparation of liquid-crystal compounds having fluorinated alkyl groups,
liquid-crystal composition, and liquid-crystal display element

IN Haseba, Yasuhiro; Miyazawa, Kazutoshi; Matsui, Shuichi; Takeuchi,
Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corporation, Japan

SO PCT Int. Appl., 103 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9832722 | A1 | 19980730 | WO 1998-JP365 | 19980129 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9856789 | A | 19980818 | AU 1998-56789 | 19980129 |
| | <u>US 6248260</u> | B1 | 20010619 | US 1999-355285 | 19990728 |
| PRAI | JP 1997-29541 | A | 19970129 | | |
| | WO 1998-JP365 | W | 19980129 | | |

OS MARPAT 129:168526

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:424215 CAPLUS

DN 129:115693

TI Cyclohexane derivatives, liquid-crystal composition, and liquid-crystal

display element

IN Fujita, Atsuko; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki;
Takeshita, Fusayuki; Nakagawa, Etsuo
PA Chisso Corp., Japan; Fujita, Atsuko; Matsui, Shuichi; Miyazawa, Kazutoshi;
Takeuchi, Hiroyuki; Takeshita, Fusayuki; Nakagawa, Etsuo
SO PCT Int. Appl., 66 pp.
CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9827048 | A1 | 19980625 | WO 1997-JP4632 | 19971216 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9854130 | A | 19980715 | AU 1998-54130 | 19971216 |
| | EP 947495 | A1 | 19991006 | EP 1997-947959 | 19971216 |
| | R: DE, FR, GB | | | | |
| | CN 1245483 | A | 20000223 | CN 1997-181478 | 19971216 |
| | US 6168839 | B1 | 20010102 | US 1999-331428 | 19990621 |
| PRAI | JP 1996-354319 | A | 19961219 | | |
| | WO 1997-JP4632 | W | 19971216 | | |

OS MARPAT 129:115693

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:424209 CAPLUS

DN 129:102327

TI Preparation of difluorophenyl derivatives as liquid-crystal compounds for liquid-crystal composition

IN Kato, Takashi; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan

SO PCT Int. Appl., 113 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| PI | WO 9827036 | A1 | 19980625 | WO 1997-JP4633 | 19971216 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9854131 | A | 19980715 | AU 1998-54131 | 19971216 |
| | EP 949232 | A1 | 19991013 | EP 1997-947960 | 19971216 |
| | R: DE | | | | |
| | TW 473536 | B | 20020121 | TW 1997-86119020 | 19971216 |
| | US 2002038858 | A1 | 20020404 | US 1999-331058 | 19990616 |
| | US 6458433 | B1 | 20021001 | | |
| PRAI | JP 1996-353203 | A | 19961216 | | |
| | WO 1997-JP4633 | W | 19971216 | | |

OS MARPAT 129:102327

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:388493 CAPLUS
 DN 129:60627
 TI Conjugated nitrile derivatives, liquid crystal compounds, and liquid crystal display elements
 IN Fujita, Atsuko; Tamura, Norio; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Husayuki; Nakagawa, Etsuo
 PA Chisso Corporation, Japan
 SO PCT Int. Appl., 120 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9823583 | A1 | 19980604 | WO 1997-JP4328 | 19971127 |
| | W: JP, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 947501 | A1 | 19991006 | EP 1997-913456 | 19971127 |
| | R: DE | | | | |
| | US 6149838 | A | 20001121 | US 1999-319025 | 19990528 |
| PRAI | JP 1996-332771 | A | 19961128 | | |
| | JP 1996-346636 | A | 19961210 | | |
| | WO 1997-JP4328 | W | 19971127 | | |
| OS | MARPAT 129:60627 | | | | |

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 18 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:388484 CAPLUS
 DN 129:88077
 TI Fluorine-substituted benzene derivatives, liquid-crystal composition, and liquid-crystal display element
 IN Kondo, Tomoyuki; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Matsui, Shuichi; Hisatsune, Yasusuke; Takeshita, Fusayuki; Nakagawa, Etsuo
 PA Chisso Corporation, Japan
 SO PCT Int. Appl., 89 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| PI | WO 9823564 | A1 | 19980604 | WO 1997-JP4331 | 19971127 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9851917 | A | 19980622 | AU 1998-51917 | 19971127 |
| | EP 949231 | A1 | 19991013 | EP 1997-946802 | 19971127 |
| | EP 949231 | B1 | 20070502 | | |
| | R: DE, FR, GB | | | | |
| | TW 482819 | B | 20020411 | TW 1997-86117941 | 19971128 |
| | US 6210603 | B1 | 20010403 | US 1999-308983 | 19990528 |
| PRAI | JP 1996-332768 | A | 19961128 | | |
| | WO 1997-JP4331 | W | 19971127 | | |
| OS | MARPAT 129:88077 | | | | |

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 19 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:388483 CAPLUS
 DN 129:60626
 TI Liquid crystal compounds exhibiting negative anisotropy of permittivity,
 liquid crystal compositions, and liquid crystal displays
 IN Kondo, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki;
 Takeshita, Fusayuki; Nakagawa, Etsuo
 PA Chisso Corporation, Japan
 SO PCT Int. Appl., 76 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| PI | WO 9823563 | A1 | 19980604 | WO 1997-JP4330 | 19971127 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9850673 | A | 19980622 | AU 1998-50673 | 19971127 |
| | EP 945418 | A1 | 19990929 | EP 1997-913458 | 19971127 |
| | EP 945418 | B1 | 20040407 | | |
| | R: DE, FR, GB | | | | |
| | TW 457289 | B | 20011001 | TW 1997-86117946 | 19971128 |
| | US 6210761 | B1 | 20010403 | US 1999-319008 | 19990528 |
| PRAI | JP 1996-332767 | A | 19961128 | | |
| | WO 1997-JP4330 | W | 19971127 | | |
| OS | MARPAT 129:60626 | | | | |
| RE.CNT | 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT | | | | |

L4 ANSWER 20 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:364954 CAPLUS
 DN 129:60620
 TI Polyhaloalkyl ether derivatives for liquid crystal compositions for
 display devices
 IN Andou, Tugumiti; Shibata, Koichi; Matsui, Shuichi; Miyazawa, Kazutoshi;
 Takeuchi, Hiroyuki; Hisatsune, Yasusuke; Takeshita, Fusayuki; Nakagawa,
 Etsuo; Kobayashi, Katsuhiko; Tomi, Yoshitaka
 PA Chisso Corporation, Japan
 SO Eur. Pat. Appl., 137 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| PI | EP 844229 | A1 | 19980527 | EP 1997-120363 | 19971120 |
| | EP 844229 | B1 | 20020206 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| | JP 10204016 | A | 19980804 | JP 1997-297678 | 19971015 |
| | JP 3287288 | B2 | 20020604 | | |
| | JP 2002179606 | A | 20020626 | JP 2001-327205 | 19971015 |
| | US 6007740 | A | 19991228 | US 1997-966455 | 19971107 |
| | TW 464685 | B | 20011121 | TW 1997-86117299 | 19971119 |
| | EP 1029842 | A2 | 20000823 | EP 2000-109051 | 19971120 |
| | EP 1029842 | A3 | 20010221 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | | |

IE, SI, LT, LV, FI, RO

| | | | | |
|---------------------|----|----------|----------------|----------|
| AT 212963 | T | 20020215 | AT 1997-120363 | 19971120 |
| CN 1188134 | A | 19980722 | CN 1997-108399 | 19971122 |
| US 6187223 | B1 | 20010213 | US 1999-335783 | 19990618 |
| PRAI JP 1996-327854 | A | 19961122 | | |
| JP 1997-297678 | A | 19971015 | | |
| US 1997-966455 | A3 | 19971107 | | |
| EP 1997-120363 | A3 | 19971120 | | |

OS MARPAT 129:60620

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 21 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:323241 CAPLUS

DN 129:11051

TI Preparation of fluoroalkylated dioxane derivatives, liquid crystal compositions, and liquid-crystal display elements

IN Haseba, Yasuhiro; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan

SO PCT Int. Appl., 108 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI WO 9820006 | A1 | 19980514 | WO 1997-JP4069 | 19971107 |
| W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| JP 10139778 | A | 19980526 | JP 1996-311405 | 19961107 |
| AU 9748861 | A | 19980529 | AU 1997-48861 | 19971107 |
| PRAI JP 1996-311405 | A | 19961107 | | |
| WO 1997-JP4069 | W | 19971107 | | |

OS MARPAT 129:11051

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 22 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:268503 CAPLUS

DN 129:10735

TI Liquid crystal composition containing dioxane derivatives for liquid crystal element

IN Haseba, Yasuhiro; Kondou, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Hisatsune, Yasusuke; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan; Haseba, Yasuhiro; Kondou, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Hisatsune, Yasusuke; Takeshita, Fusayuki; Nakagawa, Etsuo

SO PCT Int. Appl., 156 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI WO 9817664 | A1 | 19980430 | WO 1997-JP2257 | 19970630 |
| W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, | | | | |

TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
GN, ML, MR, NE, SN, TD, TG

AU 9732768 A 19980515 AU 1997-32768 19970630
EP 881221 A1 19981202 EP 1997-928518 19970630

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

CN 1211978 A 19990324 CN 1997-192489 19970630

US 6235355 B1 20010522 US 1998-101999 19980721

PRAI JP 1996-297984 A 19961022

WO 1997-JP2257 W 19970630

OS MARPAT 129:10735

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 23 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:265820 CAPLUS

DN 128:328868

TI Liquid crystal compound having alkynyl group for liquid crystal
composition for display device

IN Miyazawa, Kazutoshi; Matsui, Shuichi; Takeuchi, Hiroyuki; Kubo, Yasuhiro;
Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan

SO Eur. Pat. Appl., 69 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|--------------|----|----------|----------------|----------|
| PI EP 837045 | A1 | 19980422 | EP 1997-117945 | 19971016 |
|--------------|----|----------|----------------|----------|

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI

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|-------------|---|----------|----------------|----------|
| JP 10175888 | A | 19980630 | JP 1997-183144 | 19970624 |
|-------------|---|----------|----------------|----------|

| | | | | |
|-------------------|---|----------|----------------|----------|
| <u>US 5879585</u> | A | 19990309 | US 1997-948516 | 19971010 |
|-------------------|---|----------|----------------|----------|

PRAI JP 1996-294491 A 19961016

JP 1997-183144 A 19970624

OS MARPAT 128:328868

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:219783 CAPLUS

DN 128:288673

TI Preparation of liquid crystal compounds having negative permittivity,
liquid crystal compositions, and liquid crystal display device

IN Matsui, Shuichi; Ando, Tsugumichi; Miyazawa, Kazutoshi; Takeuchi,
Hiroyuki; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan; Matsui, Shuichi; Ando, Tsugumichi; Miyazawa,
Kazutoshi; Takeuchi, Hiroyuki; Takeshita, Fusayuki; Nakagawa, Etsuo

SO PCT Int. Appl., 130 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
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|---------------|----|----------|----------------|----------|
| PI WO 9814418 | A1 | 19980409 | WO 1997-JP3503 | 19971001 |
|---------------|----|----------|----------------|----------|

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US,
UZ, VN, YU, ZW

RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
GN, ML, MR, NE, SN, TD, TG

AU 9743981 A 19980424 AU 1997-43981 19971001
EP 930288 A1 19990721 EP 1997-942217 19971001

R: DE, FR, GB

KR 2000048860 A 20000725 KR 1999-702862 19990402
PRAI JP 1996-281369 A 19961002
WO 1997-JP3503 W 19971001

OS MARPAT 128:288673

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 25 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:208509 CAPLUS

DN 128:302171

TI Fluoroalkylated liquid-crystal compounds, liquid-crystal compositions, and
liquid-crystal display elements

IN Kondou, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi,
Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corporation, Japan

SO PCT Int. Appl., 86 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------|----------------|----------|
| PI WO 9813324 | A1 | 19980402 | WO 1997-JP3404 | 19970925 |
| W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |

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|-------------|---|----------|----------------|----------|
| JP 10101600 | A | 19980421 | JP 1996-272858 | 19960925 |
|-------------|---|----------|----------------|----------|

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|------------|---|----------|---------------|----------|
| AU 9743206 | A | 19980417 | AU 1997-43206 | 19970925 |
|------------|---|----------|---------------|----------|

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|-----------|----|----------|----------------|----------|
| EP 950651 | A1 | 19991020 | EP 1997-941231 | 19970925 |
|-----------|----|----------|----------------|----------|

R: DE, FR, GB

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|------------|----|----------|----------------|----------|
| US 6254941 | B1 | 20010703 | US 1999-269286 | 19990325 |
|------------|----|----------|----------------|----------|

PRAI JP 1996-272858 A 19960925

WO 1997-JP3404 W 19970925

OS MARPAT 128:302171

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 26 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:208508 CAPLUS

DN 128:288385

TI Substituted benzene derivative, liquid-crystal composition, and
liquid-crystal display element

IN Kondou, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi,
Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan

SO PCT Int. Appl., 81 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 2

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

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|--------------------------------------------------------------------|----|----------|----------------|----------|
| PI WO 9813323 | A1 | 19980402 | WO 1997-JP3403 | 19970925 |
| W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, IL, IS, | | | | |

KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI,
SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU,
TJ, TM

RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
GN, ML, MR, NE, SN, TD, TG

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|-------------|----|----------|----------------|----------|
| JP 10101599 | A | 19980421 | JP 1996-272857 | 19960925 |
| JP 2961650 | B2 | 19991012 | | |
| AU 9743205 | A | 19980417 | AU 1997-43205 | 19970925 |
| EP 934919 | A1 | 19990811 | EP 1997-941230 | 19970925 |

R: DE, FR, GB

| | | | | |
|---------------|----|----------|----------------|----------|
| CN 1237952 | A | 19991208 | CN 1997-199897 | 19970925 |
| KR 2000048579 | A | 20000725 | KR 1999-702506 | 19990324 |
| US 2002166994 | A1 | 20021114 | US 2001-917271 | 20010730 |

US 6579577 B2 20030617

PRAI JP 1996-272857 A 19960925
WO 1997-JP3403 W 19970925
US 1999-242811 B2 19990224

OS MARPAT 128:288385

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 27 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:208507 CAPLUS

DN 128:288384

TI Terphenyl derivative, liquid-crystal composition, and liquid-crystal display element

IN Kondou, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo

PA Chisso Corp., Japan

SO PCT Int. Appl., 69 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

PI WO 9813322 A1 19980402 WO 1997-JP3402 19970925
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, IL, IS,
KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI,
SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU,
TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
GN, ML, MR, NE, SN, TD, TG

| | | | | |
|-------------|----|----------|----------------|----------|
| JP 10101598 | A | 19980421 | JP 1996-272856 | 19960925 |
| JP 2903493 | B2 | 19990607 | | |
| AU 9743204 | A | 19980417 | AU 1997-43204 | 19970925 |
| CN 1231655 | A | 19991013 | CN 1997-198211 | 19970925 |
| CN 1134386 | B | 20040114 | | |
| EP 989107 | A1 | 20000329 | EP 1997-941229 | 19970925 |
| EP 989107 | B1 | 20060816 | | |

R: DE, FR, GB

| | | | | |
|---------------|----|----------|----------------|----------|
| KR 2000048590 | A | 20000725 | KR 1999-702524 | 19990324 |
| US 6344247 | B1 | 20020205 | US 1999-269287 | 19990325 |
| US 2001038891 | A1 | 20011108 | US 2001-836315 | 20010418 |
| US 6596349 | B2 | 20030722 | | |
| US 2001038092 | A1 | 20011108 | US 2001-836317 | 20010418 |

US 6555185 B2 20030429

PRAI JP 1996-272856 A 19960925
WO 1997-JP3402 W 19970925
US 1999-269287 A3 19990325

OS MARPAT 128:288384

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 28 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:197478 CAPLUS
DN 128:237548
TI Preparation of alkoxybenzene derivatives for liquid-crystal composition
and liquid-crystal display element
IN Matsui, Shuichi; Ando, Tsugumichi; Miyazawa, Kazutoshi; Takeuchi,
Hiroyuki; Hisatsune, Yasusuke; Takeshita, Fusayuki; Nakagawa, Etsuo
PA Chisso Corporation, Japan; Matsui, Shuichi; Ando, Tsugumichi; Miyazawa,
Kazutoshi; Takeuchi, Hiroyuki; Hisatsune, Yasusuke; Takeshita, Fusayuki;
Nakagawa, Etsuo
SO PCT Int. Appl., 134 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9812166 | A1 | 19980326 | WO 1997-JP3258 | 19970916 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | JP 10087543 | A | 19980407 | JP 1996-266804 | 19960917 |
| | AU 9742212 | A | 19980414 | AU 1997-42212 | 19970916 |
| | <u>US 6177154</u> | B1 | 20010123 | US 1999-254682 | 19990316 |
| PRAI | JP 1996-266804 | A | 19960917 | | |
| | WO 1997-JP3258 | W | 19970916 | | |

OS MARPAT 128:237548

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 29 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:163541 CAPLUS
DN 128:251036
TI Tetracyclic compound having lateral halogen substituent and liquid crystal
composition comprising the same
IN Koga, Koji; Ando, Tsugumichi; Takeuchi, Hiroyuki; Matsui, Shuichi;
Miyazawa, Kazutoshi; Hachiya, Norihisa; Nakagawa, Etsuo
PA Chisso Corporation, Japan
SO PCT Int. Appl., 117 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9808792 | A1 | 19980305 | WO 1997-JP2848 | 19970818 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | JP 10072384 | A | 19980317 | JP 1996-245525 | 19960828 |
| | AU 9738655 | A | 19980319 | AU 1997-38655 | 19970818 |
| | EP 934237 | A1 | 19990811 | EP 1997-935800 | 19970818 |
| | R: DE, FR, GB | | | | |
| | <u>US 6174458</u> | B1 | 20010116 | US 1999-242921 | 19990226 |
| PRAI | JP 1996-245525 | A | 19960828 | | |

WO 1997-JP2848 W 19970818
OS MARPAT 128:251036

L4 ANSWER 30 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:157607 CAPLUS
DN 128:277194
TI Liquid-crystalline compound, liquid crystal composition, and liquid
crystal display device
IN Miyasawa, Kazutoshi; Takeuchi, Hiroyuki; Matsui, Akiichi; Hachitani,
Norihiisa; Takeshita, Fusayuki; Nakagawa, Etsuo
PA Chisso Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 54 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------|------|----------|-----------------|----------|
| PI JP 10067694 | A | 19980310 | JP 1996-242697 | 19960826 |
| PRAI JP 1996-242697 | | 19960826 | | |
| OS MARPAT 128:277194 | | | | |

L4 ANSWER 31 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:147286 CAPLUS
DN 128:237158
TI Difluorophenyl derivative for liquid crystal composition for display
device
IN Kato, Takashi; Matsui, Shuichi; Miyazawa, Kazutoshi; Hisatsune, Yasusuke;
Nakagawa, Etsuo
PA Chisso Corporation, Japan
SO PCT Int. Appl., 114 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI WO 9807674 | A1 | 19980226 | WO 1997-JP2871 | 19970819 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9738664 | A | 19980306 | AU 1997-38664 | 19970819 |
| EP 922021 | A1 | 19990616 | EP 1997-935821 | 19970819 |
| R: DE, FR, GB | | | | |
| CN 1227536 | A | 19990901 | CN 1997-197235 | 19970819 |
| JP 2001500120 | T | 20010109 | JP 1998-510579 | 19970819 |
| US 6174459 | B1 | 20010116 | US 1999-230949 | 19990204 |
| PRAI JP 1996-238361 | A | 19960821 | | |
| WO 1997-JP2871 | W | 19970819 | | |
| OS MARPAT 128:237158 | | | | |

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 32 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:13921 CAPLUS
DN 128:108878
TI Preparation of fluorinated alkyl ether compounds for liquid-crystal
display devices
IN Kondo, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki;

Takeshita, Fusayuki; Nakagawa, Etsuo
PA Chisso Corporation, Japan
SO PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9747576 | A1 | 19971218 | WO 1997-JP1936 | 19970606 |
| | W: AL, AU, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | JP 10001450 | A | 19980106 | JP 1996-174347 | 19960614 |
| | AU 9729793 | A | 19980107 | AU 1997-29793 | 19970606 |
| | EP 926120 | A1 | 19990630 | EP 1997-924341 | 19970606 |
| | R: DE, FR, GB | | | | |
| | US 6124005 | A | 20000926 | US 1998-147387 | 19981214 |
| PRAI | JP 1996-174347 | A | 19960614 | | |
| | WO 1997-JP1936 | W | 19970606 | | |
| OS | MARPAT 128:108878 | | | | |

L4 ANSWER 33 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1997:802091 CAPLUS
DN 128:121827
TI Liquid-crystalline alkadiene compounds, compositions containing them, and liquid crystal display
IN Onishi, Noriyuki; Matsui, Akiichi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Nakagawa, Etsuo
PA Chisso Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 63 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 09323944 | A | 19971216 | JP 1996-165278 | 19960604 |
| | JP 3579756 | B2 | 20041020 | | |
| PRAI | JP 1996-165278 | | 19960604 | | |

L4 ANSWER 34 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1997:754494 CAPLUS
DN 128:82271
TI Chiral nematic liquid-crystal composition and display with high voltage retention
IN Takeshita, Fusayuki; Miyazawa, Kazutoshi; Muraki, Katsuyuki; Matsushita, Tetsuya; Nakagawa, Etsuo
PA Chisso Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 38 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|-----------------|----------|
| PI | JP 09302344 | A | 19971125 | JP 1996-140962 | 19960510 |
| PRAI | JP 1996-140962 | | 19960510 | | |
| OS | MARPAT 128:82271 | | | | |

L4X ANSWER 35 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1997:650318 CAPLUS
 DN 127:286201
 TI Preparation of alkenyl compounds, liquid crystal compositions, and liquid crystal display devices
 IN Kondo, Tomoyuki; Matsui, Shuichi; Miyazawa, Kazutoshi; Sekiguchi, Yasuko; Nakagawa, Etsuo
 PA Chisso Corporation, Japan
 SO PCT Int. Appl., 95 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| PI | WO 9735822 | A1 | 19971002 | WO 1997-JP1047 | 19970327 |
| | W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | TW 386106 | B | 20000401 | TW 1997-86103597 | 19970321 |
| | AU 9720433 | A | 19971017 | AU 1997-20433 | 19970327 |
| | EP 893421 | A1 | 19990127 | EP 1997-908522 | 19970327 |
| | EP 893421 | B1 | 20020306 | | |
| | R: DE, FR, GB | | | | |
| | US 6231934 | B1 | 20010515 | US 1998-155348 | 19980928 |
| PRAI | JP 1996-99251 | A | 19960328 | | |
| | WO 1997-JP1047 | W | 19970327 | | |
| OS | MARPAT 127:286201 | | | | |

L4 ANSWER 36 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1997:111240 CAPLUS
 DN 126:138063
 TI Preparation of liquid crystal compounds having substituted alkyl groups, and liquid crystal composition, and liquid crystal display element
 IN Kondo, Tomoyuki; Matsui, Shuichi; Shibata, Kouichi; Miyazawa, Kazutoshi; Hachiya, Norihisa; Nakagawa, Etsuo
 PA Chisso Corp., Japan
 SO PCT Int. Appl., 20 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9641787 | A1 | 19961227 | WO 1996-JP1550 | 19960607 |
| | W: JP, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 857708 | A1 | 19980812 | EP 1996-916337 | 19960607 |
| | R: CH, DE, FR, GB, LI | | | | |
| | JP 3477620 | B2 | 20031210 | JP 1997-502899 | 19960607 |
| | US 6174456 | B1 | 20010116 | US 1997-981145 | 19971208 |
| PRAI | JP 1995-166802 | A | 19950608 | | |
| | WO 1996-JP1550 | W | 19960607 | | |
| OS | MARPAT 126:138063 | | | | |

~~L4~~ ANSWER 37 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1997:76686 CAPLUS
 DN 126:97291
 TI Acrylonitrile derivatives, liquid-crystal composition, and liquid-crystal display device
 IN Fujita, Atsuko; Matsui, Shuichi; Shibata, Koichi; Miyazawa, Kazutoshi; Sekiguchi, Yasuko; Nakagawa, Etsuo

PA Chisso Corp., Japan
SO PCT Int. Appl., 224 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9632374 | A1 | 19961017 | WO 1996-JP1012 | 19960412 |
| | W: CN, JP, KR, SG, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | JP 08283226 | A | 19961029 | JP 1995-89747 | 19950414 |
| | EP 820983 | A1 | 19980128 | EP 1996-909356 | 19960412 |
| | R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL, SE | | | | |
| | JP 3498965 | B2 | 20040223 | JP 1996-530888 | 19960412 |
| | US 5976408 | A | 19991102 | US 1997-930986 | 19971219 |
| PRAI | JP 1995-89747 | A | 19950414 | | |
| | WO 1996-JP1012 | W | 19960412 | | |
| OS | MARPAT 126:97291 | | | | |

~~L4~~ ANSWER 38 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1996:724140 CAPLUS
DN 125:343103
TI Optically active liquid crystal compound containing deuterium atoms for display device
IN Koizumi, Yasuyuki; Demus, Dietrich; Matsui, Shuichi; Miyazawa, Kazutoshi; Sekiguchi, Yasuko; Nakagawa, Etsuo
PA Chisso Corp., Japan
SO Eur. Pat. Appl., 88 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------------------|------|----------|-----------------|----------|
| PI | EP 735015 | A2 | 19961002 | EP 1996-300655 | 19960130 |
| | EP 735015 | A3 | 19970611 | | |
| | R: CH, DE, FR, GB, IT, LI | | | | |
| | JP 08325174 | A | 19961210 | JP 1995-347773 | 19951214 |
| PRAI | JP 1995-100105 | A | 19950331 | | |
| OS | MARPAT 125:343103 | | | | |

L4 ANSWER 39 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1996:504094 CAPLUS
DN 125:167541
TI Preparation of [4-(2-cyclohexylethenyl)cyclohexyl]benzene derivatives
IN Bartmann, Ekkehard; Schoen, Sabine; Tarumi, Kazuaki
PA Merck Patent GmbH, Germany
SO Ger. Offen., 43 pp.
CODEN: GWXXBX

DT Patent
LA German
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|------------------|----------|
| PI | DE 19505189 | A1 | 19960627 | DE 1995-19505189 | 19950216 |
| | EP 727406 | A1 | 19960821 | EP 1995-118849 | 19951130 |
| | EP 727406 | B1 | 20010905 | | |
| | R: DE, GB | | | | |
| | JP 08253436 | A | 19961001 | JP 1996-11059 | 19960125 |
| | <u>US 5679285</u> | A | 19971021 | US 1996-602063 | 19960215 |
| PRAI | DE 1994-4446238 | A1 | 19941223 | | |
| | DE 1995-19505189 | A | 19950216 | | |
| OS | MARPAT 125:167541 | | | | |

L4 ANSWER 40 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1996:313691 CAPLUS
 DN 124:356416
 TI Ethynyl compound and liquid crystal medium
 IN Reiffenrath, Volker; Rieger, Bernhard; Junge, Michael; Tarumi, Kazuaki
 PA Merck Patent Gmbh, Germany
 SO Ger. Offen., 17 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | DE 4435154 | A1 | 19960404 | DE 1994-4435154 | 19940930 |
| PRAI | DE 1994-4435154 | | 19940930 | | |
| OS | MARPAT 124:356416 | | | | |

L4 ANSWER 41 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1996:304000 CAPLUS
 DN 124:356419
 TI A liquid crystal composition and a liquid crystal display element using the same
 IN Tomi, Yoshitaka; Nakagawa, Etsuo; Sawada, Shinichi
 PA Chisso Corp., Japan
 SO Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | EP 704512 | A1 | 19960403 | EP 1995-113991 | 19950906 |
| | EP 704512 | B1 | 20000308 | | |
| | R: CH, DE, GB, LI | | | | |
| | JP 08073857 | A | 19960319 | JP 1994-238555 | 19940906 |
| | JP 3389697 | B2 | 20030324 | | |
| | US 5645759 | A | 19970708 | US 1995-524441 | 19950906 |
| PRAI | JP 1994-238555 | A | 19940906 | | |
| OS | MARPAT 124:356419 | | | | |

L4 ANSWER 42 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1995:290065 CAPLUS
 DN 122:68878
 TI Preparation of dicyclohexylethylene derivatives as liquid crystals
 IN Ohnishi, Noriyuki; Matsui, Shuuichi; Kondo, Tomoyuki; Goto, Yasuyuki
 PA Chisso Corp., Japan
 SO PCT Int. Appl., 53 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9420443 | A1 | 19940915 | WO 1994-JP389 | 19940310 |
| | W: AU, JP, KR, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | AU 9462197 | A | 19940926 | AU 1994-62197 | 19940310 |
| | AU 676542 | B2 | 19970313 | | |
| | EP 688754 | A1 | 19951227 | EP 1994-909299 | 19940310 |
| | EP 688754 | B1 | 19981007 | | |
| | R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE | | | | |
| | AT 171929 | T | 19981015 | AT 1994-909299 | 19940310 |
| | JP 3418398 | B2 | 20030623 | JP 1994-519827 | 19940310 |

US 5641432 A 19970624 US 1995-522322 19951026
 PRAI JP 1993-77551 A 19930310
 WO 1994-JP389 W 19940310
 OS MARPAT 122:68878

L4 ANSWER 43 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1994:496266 CAPLUS
 DN 121:96266
 TI 2-Fluorobenzonitrile derivative and a liquid-crystal composition
 containing it
 IN Matsui, Shuichi; Onji, Yuichi; Fujita, Atsuko; Kondo, Tomoyuki; Goto,
 Yasuyuki
 PA Chisso Corp., Japan
 SO Eur. Pat. Appl., 26 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------|------|----------|-----------------|----------|
| PI | EP 588291 | A1 | 19940323 | EP 1993-114703 | 19930913 |
| | EP 588291 | B1 | 19960327 | | |
| | R: CH, DE, FR, GB, LI | | | | |
| | JP 06092924 | A | 19940405 | JP 1992-243635 | 19920911 |
| | JP 3326821 | B2 | 20020924 | | |
| | US 5370822 | A | 19941206 | US 1993-118668 | 19930910 |
| PRAI | JP 1992-243635 | A | 19920911 | | |
| OS | MARPAT 121:96266 | | | | |

L4 ANSWER 44 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1994:232286 CAPLUS
 DN 120:232286
 TI Liquid-crystal composition and display devices containing it
 IN Hirose, Taku; Terashima, Kanetsugu; Sawada, Shinichi
 PA Chisso Corp., Japan
 SO Eur. Pat. Appl., 36 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | EP 571916 | A1 | 19931201 | EP 1993-108348 | 19930524 |
| | EP 571916 | B1 | 19961002 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| | JP 05331464 | A | 19931214 | JP 1992-160011 | 19920528 |
| | JP 2732335 | B2 | 19980330 | | |
| | AT 143685 | T | 19961015 | AT 1993-108348 | 19930524 |
| | SG 70953 | A1 | 20000321 | SG 1996-510 | 19930524 |
| | AU 9339842 | A | 19931202 | AU 1993-39842 | 19930528 |
| | AU 658738 | B2 | 19950427 | | |
| | CN 1087664 | A | 19940608 | CN 1993-108215 | 19930528 |
| | US 5358662 | A | 19941025 | US 1993-68952 | 19930528 |
| PRAI | JP 1992-160011 | A | 19920528 | | |
| OS | MARPAT 120:232286 | | | | |

L4 ANSWER 45 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1994:19382 CAPLUS
 DN 120:19382
 TI Preparation of (trifluoromethoxy)benzene derivatives as liquid crystals
 and liquid crystal compositions containing them
 IN Mikajiri, Tsutomu; Matsui, Shuichi; Onchi, Juichi; Fujita, Atsuko; Goto,
 Yasuyuki
 PA Chisso Corp, Japan

SO Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | JP 05221909 | A | 19930831 | JP 1992-29686 | 19920217 |
| | JP 3275265 | B2 | 20020415 | | |
| PRAI | JP 1992-29686 | | 19920217 | | |

L4 ANSWER 46 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1993:30174 CAPLUS

DN 118:30174

TI Preparation of cyclohexylbenzonitrile derivatives as additives for nematic liquid-crystal compositions

IN Sasaki, Makoto; Takatsu, Haruyoshi; Takeuchi, Kyobumi

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|-----------------|----------|
| PI | JP 04210669 | A | 19920731 | JP 1990-401917 | 19901213 |
| PRAI | JP 1990-401917 | | 19901213 | | |
| OS | MARPAT 118:30174 | | | | |

L4 ANSWER 47 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1992:437480 CAPLUS

DN 117:37480

TI Preparation of fluorophenylcyclodexyl ethers fluorine-substituted compound containing ether bond

IN Sasaki, Makoto; Takatsu, Haruyoshi; Takeuchi, Kiyofumi

PA Dainippon Ink Chemical Industry Co., Japan

SO Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | EP 470590 | A1 | 19920212 | EP 1991-113259 | 19910807 |
| | EP 470590 | B1 | 19950104 | | |
| | R: CH, DE, GB, LI | | | | |
| | JP 04095041 | A | 19920327 | JP 1990-213344 | 19900810 |
| | JP 04095042 | A | 19920327 | JP 1990-213345 | 19900810 |
| | JP 04095043 | A | 19920327 | JP 1990-213346 | 19900810 |
| | US 5208386 | A | 19930504 | US 1991-744186 | 19910809 |
| PRAI | JP 1990-213344 | A | 19900810 | | |
| | JP 1990-213345 | A | 19900810 | | |
| | JP 1990-213346 | A | 19900810 | | |
| OS | MARPAT 117:37480 | | | | |

L4 ANSWER 48 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1992:117815 CAPLUS

DN 116:117815

TI Fluorinated liquid crystals for active matrix displays

AU Goto, Y.; Ogawa, T.; Sawada, S.; Sugimori, S.

CS Chisso Petrochem. Corp., Chiba, 290, Japan

SO Molecular Crystals and Liquid Crystals (1991), 209, 1-7

CODEN: MCLCA5; ISSN: 0026-8941

DT Journal

LA English

L4 ANSWER 49 OF 49 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1991:571575 CAPLUS

DN 115:171575

TI Dicyclohexylethylene derivatives and liquid-crystal composition containing them

IN Uchida, Manabu; Goto, Yasuyuki; Ogawa, Tetsuya

PA Chisso Corp., Japan

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------------------|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | EP 422958 | A1 | 19910417 | EP 1990-311225 | 19901012 |
| | EP 422958 | B1 | 19940427 | | |
| | R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE | | | | |
| | JP 03127748 | A | 19910530 | JP 1989-265131 | 19891013 |
| | JP 06062462 | B | 19940817 | | |
| | US 5055220 | A | 19911008 | US 1990-579327 | 19900910 |
| | AT 104939 | T | 19940515 | AT 1990-311225 | 19901012 |
| | KR 166067 | B1 | 19990320 | KR 1990-16165 | 19901012 |
| PRAI | JP 1989-265131 | A | 19891013 | | |
| | EP 1990-311225 | A | 19901012 | | |
| OS | MARPAT 115:171575 | | | | |